

A. A. Kostylev, V. V. Mikhalev, N. N. Slobodchikov
A. A. Kostylev, V. V. Mikhalev, N. N. Slobodchikov

TITLE: Calculation of nonstationary processes in lasers

1981, 702

SOURCE: Radiotekhnika i elektronika

TOPIC TAGS: laser, laser amplification, laser theory

ABSTRACT: Theoretical investigation of the nonstationary processes in
optical amplifiers. Optical amplifiers

Card 114

L 10433-65
ACCESSION NR: AP404c-79

ASSOCIATION: none

APPROVED FOR RELEASE: 03/14/2001

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CIA-RDP86-00513R001757530006-7

NIKAROVN, A.L., TURNOV, Yu.G.

Parasitic "internal" types of oscillations in open cavity
resonators with dielectric rods. Radiotekh. i elektron. 11
no. 2:347-348 P '66
(MIRA 1982)

1. Submitted May 22, 1965.

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CIA-RDP86-00513R001757530006-7"

L 27065-66

FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(h) IJP(c)

WG

SOURCE CODE: UR/0109/66/011/005/0946/0947

ACC NR: AP6014254

AUTHOR: Mikaelyan, A. L.; Savel'yev, V. G.; Turkov, Yu. O.

11/3

ORG: none

TITLE: Calculation of the passive-switched laser

SOURCE: Radiotekhnika i elektronika, v. 11, no. 5, 1966, 946-947

TOPIC TAGS: solid state laser, ruby laser, laser modulation, Q modulation, passive modulation, phthalocyanine

ABSTRACT: The passive-switched ruby laser was investigated by the authors earlier (Rad. i elektronika, 1965, v. 10, no. 7, 1350); the generation was calculated by neglected pumping and relaxation processes transpiring during the pulse radiation. The present article reports some results obtained on a computer which clarify the effect of the relaxation between the levels of the modulator substance (phthalocyanine) and the time characteristics of radiation. The numerical calculation shows that normally the relaxation does not affect the output power; only with a very short relaxation time (under 10^{-12} sec) may the laser output fall off. Also, the generation of pulses, with very high repetition frequency and with a low-attenuation passive cell was calculated (cf. R. Dunsmuir, J. El. and Control, 1961, v. 10, no. 6, 453). Orig. art. has: 2 figures and 3 formulas. [03]

SUB CODE: 20 / SUBM DATE: 04Aug65 / ORIG REF: 003 / OTH REF: 001 / ATD PRESS: 4254

UDC: 621.378.3.001.24

Card 1/1 1/

Z

ACC NR: AP6027243

SOURCE CODE: UR/0109/66/011/008/1518/1520

AUTHOR: Mikaelyan, A. L.; Ter-Mikayelyan, M. L.; Turkov, Yu. G.; D'yachenko, V. V.

ORG: none

TITLE: Use of quasi-classical and balance equations for calculating stationary conditions in lasers

SOURCE: Radiotekhnika i elektronika, v. 11, no. 8, 1966, 1518-1520

TOPIC TAGS: laser theory, laser R and D

ABSTRACT: The calculation of laser-energy characteristics by the conventional balance method is compared with the calculation by a more rigorous method which takes into account the wave interference in the resonator. In the latter method, the field is described by the classical Maxwell equations, and the active atoms, by the Schredinger equation; two opposing waves are considered in an optical resonator formed by two planar mirrors. Curves of radiation intensity vs. output-mirror reflectivity calculated by the two above methods are shown. At the optimal-reflectivity point, the balance equations have a maximum error (25%). With higher pumping levels and longer specimens, the error diminishes. Orig. art. has: 3 figures and 8 formulas.

SUB CODE: 20 / SUBM DATE: 17Feb66 / ORIG REF: 005

UDC: 621.378.325.001.24

Cordj/1

ACC NR: AP7004050

SOURCE CODE: UR/0252/66/043/003/0133/0137

AUTHOR: Mikaelyan, A. L.; Turkov, Yu. G.; Pogosyan, P. S.

ORG: Laboratory of Radiation Problems, Yerevan State University (Radiatsionnaya problemnaya laboratoriya Yerevanskogo gosudarstvennogo universiteta); Academy of Sciences, Armenian SSR (Akademiya nauk Armyanskoy SSR)

TITLE: Measuring the power characteristics of a laser amplifier

SOURCE: AN ArmSSR. Doklady, v. 43, no. 3, 1966, 133-137

TOPIC TAGS: ruby laser, ~~laser amplifier~~, optical amplifier, laser efficiency, laser power characteristic, LASER POWER AMPLIFIER, LASER ENERGY

ABSTRACT: The master laser consisted of a ruby rod 120 mm long and 6.5 mm in diameter pumped by a 500-j flashlamp. The laser output was Q-switched by a rotating (20×10^3 rpm) prism and consisted of 0.2-j 50-nanosec pulses. The laser amplifier used ruby rods 120 and 240 mm long. The beam energy was measured by means of a calorimeter with a sensitivity of 300 $\mu\text{w}/\text{j}$. The gain of a 24-cm laser amplifier was shown to decrease with increasing output energy. To eliminate interference by regeneration, the rod ends were set at angles of 15—20' with the mirror. The maximum gain was observed at indication angles of about 5'. Further increase to about 15' resulted in the traveling-wave operation. The authors thank V. Ya. Antonyants for his help. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 001/

Card 1/1

[WA-14]

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7

MIKAELYAN, A.L.; TURKOV, Yu.G.

Efficiency of energy conversion in a mobile ultrahigh power transmitter.
Radiotekh. i elektron. 10 no.6; 1965-1103-76 189.

1965-12:ru

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7

MIKAELYAN, A.L.; ANTON'YANTS, V.Ya.; DOLGIY, V.A.; TURKOV, Yu.O.

Study of a laser with a passive shutter. Radiotekh. i elektron. 10
no.7:1350-1351 Jl '65. (MIRA 18:7)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"

A. L. Mikaelyan, Yu. G.

AUTHOR Mikaelyan, A. L., Turkov, Yu. G.

TITLE: Maximum duration of laser-radiation pulse

SOURCE: Radiotekhnika i elektronika v 10, no 7, 1965, 1352-1353

TOPIC TAGS: laser, controlled Q laser

ABSTRACT: It has been measured in controlled-Q lasers, that there is a

Card 1/2

I 53513-55
ACCESSION NR. AP5017677

DATE RECEIVED: 10-10-86
EXPIRATION DATE: 10-10-87

ASSOCIATION: none

CLASSIFICATION: COMINT

FORMAT: 00

SUB CODE: NC

NO REF SOV. UVS

DISPACH: 0

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CIA-RDP86-00513R001757530006-7

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"

AUTHOR: Mikael'yan, I. V., et al.

SOURCE: Radiotekhnika i elektronika, v. 10, no. 7, 1965, 134-138

TOPIC TAGS: passive element, laser utilizing a passive element, photoelectric conversion, photodiode

ABSTRACT: An expression was derived for the peak intensity of radiation emitted from a laser with passive elements.

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"APPROVED FOR RELEASE: 03/14/2001

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CIA-RDP86-00513R001757530006-7"

Turkov, et al.

33232

S/023/62/312/032/003/013
B102/B138*26.22.64*AUTHORS: Zvonov, N. V., Mis'kevich, A. I., Rogozhkin, I. V.,
Tereshchenko, V. I., Turkov, Zh. I., Utkin, V. P.TITLE: Fast neutron energy spectrum and thermal neutron flux
distribution in the experimental hole of a BGP (VVR) reactor

PERIODICAL: Atomnaya energiya, v. 12, no. 2, 1962, 116 - 122

TEXT: Threshold reactions, leading to formation of gamma-active nuclei,
were used to study neutron spectra. A scintillation counter with NaI(Tl)
crystal, Ф99-13 (FEU-13) photomultiplier and a 100-channel pulse-height
analyzer was used to record gamma-radiation. Al, Fe, Si, Ti, Ni, Co, Mg,
Zn, and Cu were used as indicator elements for (n,p) reactions, Al for
(n,γ) reactions and In, Hg, Pb, Ag, and Ba for inelastic (n,n') reactions
in which longlife ($\geq 1-2$ min) metastable levels are formed. Low threshold
energy is typical of this kind of reaction. For In¹¹⁵(n,n') it is 335 kev.
The usual threshold indicator technique was used. The spectral
distribution of neutrons was determined from the equations

Card 1/3

33232
S/CGG/12/012/002/001/013
B102/B138

Fast neutron energy spectrum...

$A_i = \int_{E_{thr}}^{\infty} \Phi(E) \sigma_{act}^i(E) dE$, $i = 1, 2, \dots, n$; i is the indicator index, n the number of indicators, $\Phi(E)$ flux of neutrons of given energy, $\sigma_{act}(E)$ activation cross section, E_{thr} threshold energy. If the real cross section $\sigma_{act}^i(E)$ is substituted by an ideal one, at a certain threshold E_{eff}^i there will be a jump from zero to σ_o^i and $A_i = \sigma_o^i \int_{E_{eff}^i}^{\infty} \Phi(E) dE$ is obtained. σ_o^i \times

and E_{eff}^i may be chosen arbitrarily if only the upper equations are fulfilled. σ_o^i was taken as the mean of $\sigma_{act}^i(E)$ and E_{eff}^i was determined from these equations. The effective thresholds E_{eff} , effective cross sections σ_o and integral neutron fluxes for $E > E_{eff}$, 100 kw and a channel width of 130 mm were calculated numerically. The thermal neutron flux distributions were measured vertically and radially by means of a plate (4.5 mm) and a

Card 2/3

33232
S/080/62/012/002/003/001
B102/R158

Fast neutron energy spectrum...

disc (19 mm). The neutron flux in the center of the channel was measured at the level of the middle of the core with a Cu foil of 0.1415 g/cm^2 . With an empty channel width of 130 mm and 100 kw the flux was $4.5 \cdot 10^{11} \text{ n/cm}^2 \cdot \text{sec}$. Comparison with other results shows that the same dependence of thermal neutron flux on core distance obtains for both water and concrete. There are 5 figures, 1 table, and 18 references: 3 Soviet and 15 non-Soviet. The four most recent references to English-language publications read as follows: W. Meinke. Nucleonics, 17, No. 3, 86, 1959; P. Kruger. Nucleonics, 17, No. 6, 116, 1959; R. Bullock, R. Moore. Phys. Rev. 112, No. 2, 721, 1960; R. Rochlin. Nucleonics, 17, No. 1, 54, 1959.

SUBMITTED: April 25, 1961

CONFIDENTIAL

COUNTRY : Czechoslovakia E-2
 CATEGORY :
 A.R.E. JOUR. : RZKhim., No. 1959, No. 86201
 AUTHOR : Turkova, J.
 INST. :
 TITLE : Determination of Microgram-Amounts of Fluorine in Carbonates and Phosphates by a Modified Willard-Winter Method.
 ORIG. PUB. : Univ. carolina. Geol., 1957, 3, No 3, 227-245
 ABSTRACT : Methods of determination of small amounts of F are reviewed (bibliography, 81 references). A modified Willard-Winter method for determination of F is described. According to the modified method, F is isolated from the sample analyzed by steam-distilling at $135 \pm 2^\circ$ in the presence of SiO_2 and HClO_4 . F^- or $(\text{SiF}_6)_3^{2-}$ is determined in distillate by titration with 0.005 N solution of $\text{Th}(\text{NO}_3)_4$ in chloracetate buffer medium at pH 3 (without $\text{C}_2\text{H}_5\text{OH}$) using alizarin S as indicator.

From author's summary.

CARD:

108

MIKES, O.; TURKOVA, J.; SORM, F.

Chemical composition of the antibiotic albomycin. Pt.5. Coll
Cz Chem 28 no.7:1747-1761 J1 '63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences.

TURKOVA, J.; MIKES, O.; SORM, F.

Chemical composition of the antibiotic albamycin. Pt.d.
Coll Cz Chem 30 no.1:118-127 Ja '6..

1. Institute of Organic Chemistry and Biochemistry of the
Czechoslovak Academy of Sciences, Prague. 2. Advisory
Board Chairman, "Collection of Czechoslovak Chemical
Communications" (for Sorm). Submitted April 29, 1964.

TURKOVA, J.; MIKES, O.; SORM, F.

Chemical composition of the antibiotic albamycin. Pt.6. Coll
Cz Chem 29 no.1:280-288 Ja'64

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

TURKOVA, J.

"Stabilizing effect of thiamin on ascorbic acid in model solutions and its application in preserving food. p. 584."

PRUMYSL POTRAVIN. Praha, Czechoslovakia. Vol. 9, no. 11, 1958.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Jun 59 unclas

CZECHOSLOVAKIA

SINGER, O; TURKOVÁ, J; ŠOŘÍK, P.

Institute of Organic Chemistry and Biochemistry of the
Czechoslovak Academy of Sciences, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 7, 1963, pp 1747-1761

"Chemical Composition of the antibiotic Albonycin. V.
Complexing Center, Ultraviolet Chromophore of Albonycin
and their Linkage to the Peptide Structure."

TRAVNICEK, Z.; TURKOVA, K.

Prospects for the expansion of the manufacture of high-bulk
yarns. Tekst.prom. 21 no.3:69-71 Mr '61. (MIRA 14:3)
(Yarn) (Synthetic fibers)

MIKES, Otakar; TURKOVA, Jaroslava

Hydroxamates and their ferric complexes, a new type of
natural substances. Chem listy 58 no.1:65-123 Ja'64.

l. Ustav organicke chemie a biochemie, Ceskoslovenska
akademie ved, Praha.

BALANDINA, V.A.; KLESHCHEVA, M.S.; KUZNETSOVA, G.S.; TURKOVA, L.D.

Quantitative evaluation of chromatograms with the aid of a
detector of heat conductivity. Zhur.anal.khim. 18 no.7:808-
810 Jl '63. (MIRA 16:11)

1. Scientific-Research Institute of Polymerization Plastics
and Experimental Plant, Leningrad.

BOLOTNIKOVA, L.S.; DANILOV, S.N.; SAMSONOVA, T.I.; TURKOVA, L.D.

Characteristics and use of an alkaline solution of the iron sodium tartrate complex for dissolution of cellulose. Zhur.prikl.khim.
35 no.12:2760-2763 D '62. (MIRA 16:5)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Iron sodium tartrates) (Cellulose) (Iron Analysis)

BALANDINA, V.A.; DEMENT'YEVA, M.I.; KLESHCHEVA, M.S.; TURKOVA, L.D.

Determination of the composition of crude vinyl acetate derived from
carbide acetylene. Plast.massy no.4:64-65 '63. (MIRA 16:4)
(Vinyl acetate) (Acetylene)

PRIX, Rudolf; TURKOVA, Milada; PRIKOVA, Jitka

Contribution to the problem of influenza pneumonia. Sborn. ved.
prac. lek. fak. Karlov. Univ. 8 no.5:563-574 '65

1. Infekcni klinika (prednosta - prof. MUDr. J. Ondracek) a
Katedra lekarske mikrobiologie (prednosta - MUDr. O. Vejbora)
v Hradci Kralove.

SHCHERBAKOV, A.P.; TURKOVA, M.S.

Forms of calcium in tree seedlings. Fiziol. rast. 7 no.4:439-446 '60.
(MIRA 13:9)

1. Forestry Institute of U.S.S.R. Academy of Sciences, Moscow Region.
(Plants--Assimilation) (Calcium metabolism)
(Trees)

SHCHERBAKOV, A.P.; TURKOVA, M.S.

Distribution and migration of manganese in the needles of pine, spruce
and larch seedlings. Dekl. AN SSSR 107 no. 4:609-611 Ap '56. (MLRA 9:7)

1. Institut lesa Akademii nauk SSSR. Predstavlene akademikom V.N.Sukachevym.
(Pine) (Leaves)

TURKOVA - MS.

copy

Distribution and migration of manganese in needles of seedlings of *Picea*, *Pinus*, and *Larix* trees. A. P. Shcherbakov and M. S. Turkova. *Doklady Akad. Nauk. S.S.R.* 107, 609-11 (1958). The notion of the accumulation of Mn in the fall in the older tree structures is shown to be erroneous. In August the Mn accumulation is indeed in the older needles, but in September it migrates to the younger needles. The older needles in this period suffer a real decline in Mn. This migration is quite feeble in *Picea* owing to generally low Mn content. G. M. Kosolapoff

2

PETELINA, V.S.; STARTSEV, B.Ya.; Prinimali uchastiye: KOTOVA, L.A.,
laborant; TRUSOVA, M.I., laborant; TEMNOGRUDOVA, L.G., laborant;
TURKOVA, N.A., laborant

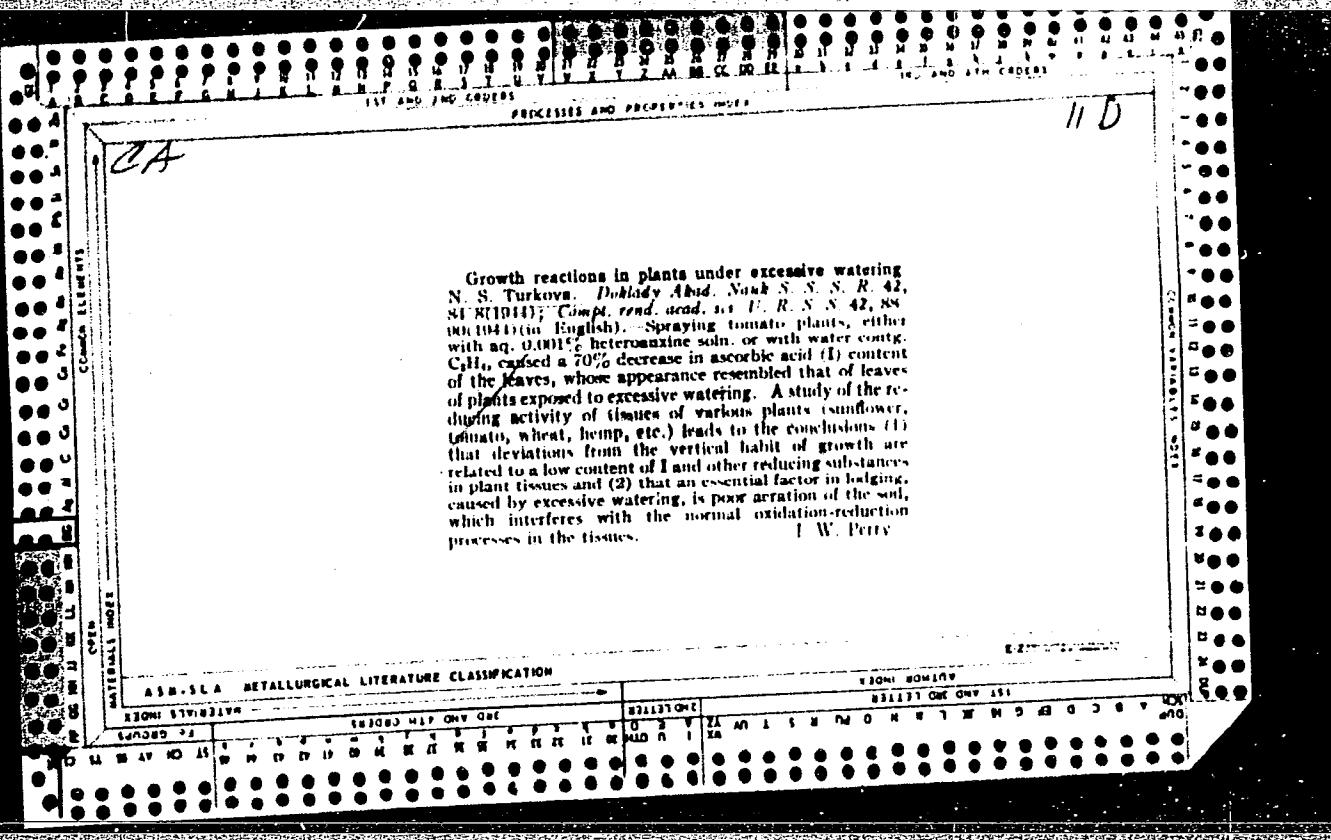
Regeneration of alkali from the sulfide alkalies of desulfurized
petroleum-products. Neftper. i neftekhim. no.9:25-27 '63.
(MIRA 17:8)

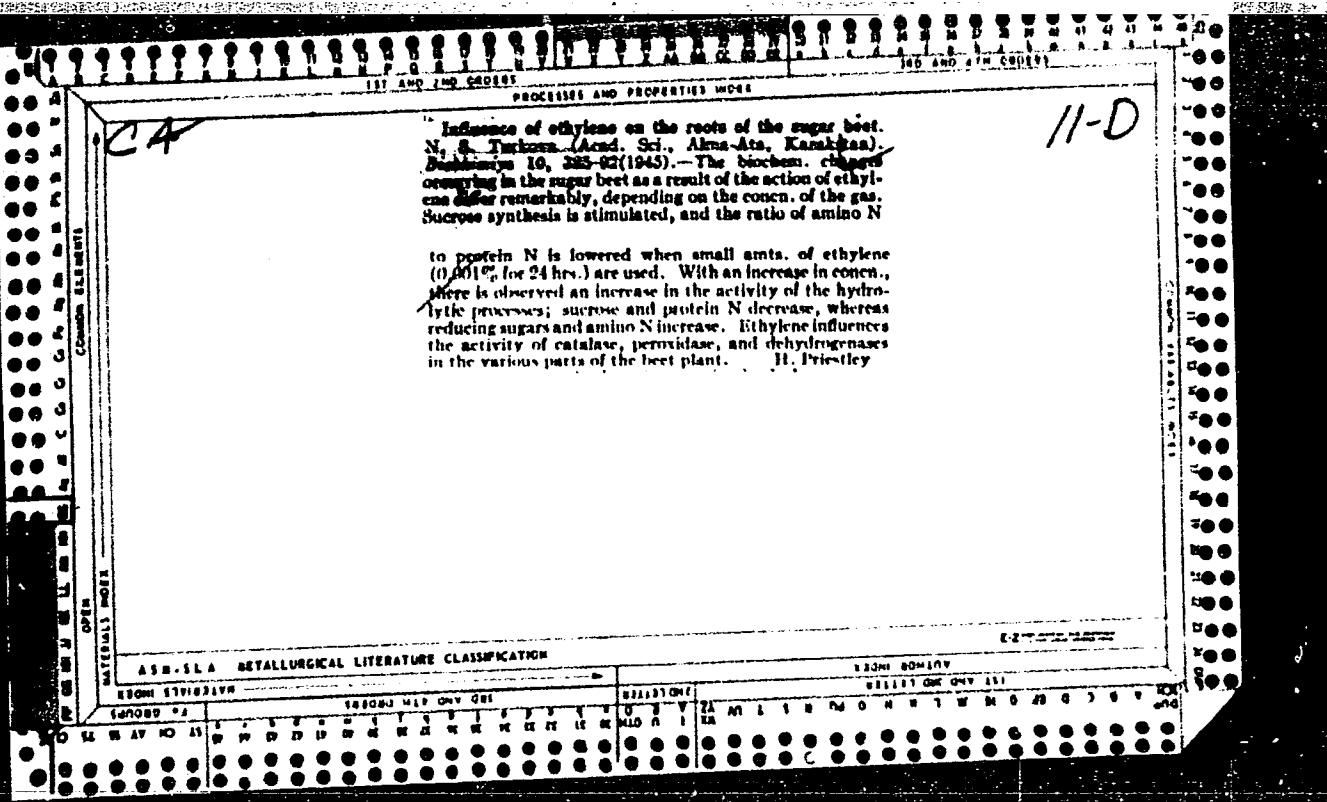
1. Nauchno-issledovatel'skiy institut khimii, g. Saratov.

PETELINA, V.S.; STARTSEV, B.Y.; Prinimali uchastiye: KOTOVA, L.A., laborant; TRUSOVA, M.I., laborant; TEMNOGRUDOVA, L.G., laborant; TURKOVA, N.A., laborant

Problem of the recovery of alkali from sulfide waste liquors. (MIRA 18:10)
Zhur.prikl.khim. 38 no.6:1212-1216 Je '65.

1. Nauchno-issledovatel'skiy institut khimii Saratovskogo gosudarstvennogo universiteta imeni N.G.Chernyshevskogo.





CA

Effect of oxidation processes on the transformation of nitrogenous substances and plant growth N. S. Lurkova
Izdat. Psichennogo Inst. im. V. V. Dokuchaeva 33, 297 (9) (1950). The purpose was to study the effect of P on the action of K : Ca ratio on the metabolism of sprouting plants, the effect of Cl : SO₄ ratio in the nutrient soln. on N metabolism and respiration, and to check the applicability of phenom. on observed on wheat sprouts to other plants. The exptl. results are recorded and discussed M. Hesch

11D

CA

The influence of composition of air on viability of the acorn. N. S. Turkova (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.R.* 70, 735-8 (1951). Evolution of CO₂ by acorns rises steadily from 0° to 50°; curiously it shows a significant rise between 0° and 8°, but shows a decline on further lowering of temp. The covering of the acorn does not appear to interfere with normal CO₂ evolution. Prolonged exclusion of O₂ (keeping in tightly stopped vessels, covering with paraffin, or storage in pure N₂) in the dark leads to severe loss of sprouting ability and in 3 months viability is totally lost; the acorns at this stage are dark brown and display a wine-like odor. Anaerobic atm. of varying proportions of CO₂ (8-20%) gave complex results: if initial CO₂ concn. is 20% a severe loss of viability (down to 7%) occurs in 50 days; with initial 10% CO₂ (or 5%) there is an actual increase over the viability of controls and an enhancement of the rate of growth of the sprouts. However, high O₂ atm. (40%) lowers viability by 10-15%. Specimens stored under anaerobic conditions had higher rates of CO₂ evolution than the specimens kept in aerobic conditions and the higher was the CO₂ concn. the closer was the behavior of the acorns stored in the aerobic state to that of specimens kept in the anaerobic condition.

G. M. Kosolapoff

TRIKHA, N. S.

Growth (Plants)

Role of the oxidation regimen of plant tissues for the vertical growth of plants.
Biul. MOIP. Otd. biol. 57 no. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952, Unclassified.

(1)

- Effect of gas regime in storage of acorns on metabolism of materials in the leaves of the seedlings. N. S. Turkova and M. I. Lushnova (M. V. Lomonosov State Univ., Moscow). Doklady Akad. Nauk S.S.R. 84, 837-8 (1952).— Acorns were stored 60 days at 12-15° either in N₂, in 10% O₂-10% CO₂, 10%O-5%CO₂, in normal atm., or in O₂ rich atm. (the concn. was twice brought up to 40%). They were then planted in moist sand and the leaves of the plants (tallied CO₂) raised highest accumulation of dry matter and greatest leaf area. Respiration in N₂ was adverse in respect to general growth in the early stages of growth, but in later months these plants were substantially normal. The intensity of respiration was highest for plants from the aerobically stored acorns, and was especially high for those treated with excess O₂ (some 10-15% increase noted). The semi-aerobic treatment led to the highest concn. of reducing sugars in the leaves; the aerobic varieties showed low sugar throughout the summer. N₂-treated specimens showed enhanced sucrose formation, but low reducing sugars. Thus no correlation between intensity of growth and intensity of respiration could be found. Intense growth did parallel the concn. of reducing sugars present. G. M. Kossolapoff

TURKOVA, N. S.

USSR/Biology - Effects of Poisons on
Plants

1 Nov 53

"Drooping of Cereal Plants Under the Effect of Re-
spiratory Poisons," N. S. Turkova, G. R. Liepinja,
Moscow State U

DAN SSSR, Vol 93, No 1, pp 183-184

Found that respiratory poisons (CO, H₂S) bring
about drooping of cereal plants. Under the effect
of H₂S the reductive capacity of the contents of
stalks of oat plants dropped by 51.3%. Presented
by Acad A. I. Oparin 7 Sep 53.

275T2

TURKOVA, N. S.

"Oxidation Processes and Plant Growth." Dr Biol Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 26 Feb 54. Dissertation (Vechernaya Moskva Moscow, 17 Feb 54)

SO: SUM 186, 19 Aug 1954

USSR/Geophysics - Soil science faculty

FD-686

Card 1/1 : Pub. 129 - 21/25

Author : Zolotarev, Ye.

Title : Lomonosov lectures, 19-21 April 1954 in the Biologico-pedological Faculty

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol. 9, No. 3, 146-151, May 1954

Abstract : Prof. N. P. Remezov, "Biological cycle and the soil-forming process." Docent Ye. V. Arinushkina, "Accelerated large-scale analysis of soils." Prof. S. S. Stankov, head of Chair of Geobotany, "Laws governing the distribution of the plant cover of the Crimea and the main ways to its improvement." N. S. Turkova, "Control of growth processes as a measure in the struggle against stem-break in wheat." Academician L. A. Zenkevich, head of the Chair of Zoology, and Ya. A. Birshteyn, docent of the Chair, "Studies of benthonic fauna of the Kurile-Kamchatka Depression." Prof. A. N. Studitskiy, "Problem of the nervo-trophic regulation of morphogenetic processes in the animal organism."

Institution : --

Submitted : --

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CIA-RDP86-00513R001757530006-7"

TURKOVA, N.S.

Conference on the physiology and ecology of plant growth. March.
dokl.vys.shkoly;biol.nauki no.4:205-206 '58. (MIRA 11:12)
(Plant physiology--Congresses)

TURKOVA, N.S.; MERKIS, A.I.

Physiological investigation of the lodging of cereal grains.
Vest.Most.un.Ser.biol.,pochv.,geol.,geog. 13 no.4:19-27 '58.
(MIRA 12:4)

I. Kafedra fiziologii rasteniy Moskovskogo universiteta.
(Grain)

TURKOVA, N.S.; BORUZDINA, M.A.

Changes in the effectiveness of heteroauxin during sulfonation.
Vest. Mosk. un. Ser. biol., pochv., geol., geog. 14 no.2:
37-47 '58. (MIRA 11:9)

1. Moskovskiy gos. universitet, Kafedra fiziologii rasteniy.
(Indoleacetic acid) (Sulfonation)

TURKOVA, N.S.; LOZHNIKOVA, V.N.

Some characteristics of nuclein metabolism in shaded plants.
Nauch. dokl. vys. shkoly; biol. nauki no.4:136-139 '59.
(MIRA 12:12)

1. Rekomendovana kafedroy fiziologii rasteniy Moskovskogo gosudar-
stvennogo universiteta im. M.V. Lomonosova.
(Plants, Effect of light on) (Nucleic acids)

TURKOVA, N.S.; ZHDANOVA, L.A.; PETERBURGSKAYA, Ye.A.

Effect of heteroauxin on nuclein metabolism in plants. Vest.
Mosk.un.Ser.biol., pochv., geol., geog. 14 no.4:25-32 '59.

(MIRA 13:6)

1. Kafedra fiziologii rasteniy Moskovskogo universiteta.

(IDOLACETIC ACID)

(PLANTS--METABOLISM)

(NUCLEIC ACIDS)

TURKOVA, N.S.; KLYACHKO-GURVICH, G.L.

Polarity of shoots and the effect of heteroauxin on it. Biul.
MOIP. Otd.biol. 64 no.6:73-86 N-D '59. (MIRA 13:5)
(POLARITY (BIOLOGY)) (INDOLACETIC ACID)
(PLANT PHYSIOLOGY)

TURKOVA, N.S.; BERNER, R.

Changes in the activity of adenosinetriphosphatase in lodged oat-stems due to the effect of heteroauxin. Nauch.dokl.vys.shkoly; biol. nauki no.2:140-143 '60. (MIRA 13:4)

1. Rekomendovana kafedroy fiziologii rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(INDOLACETIC ACID) (ADENOSINETRIPHOSPHATASE)
(PLANTS--IRRITABILITY AND MOVEMENTS)

TURKOVA, N.S.; SIN MEY-IN [Hsing Mei-Ying]; BERNER, R.; YEMINA, I.P.

Factors determining spatial orientation of leaves and stems in
connection with the study of conditions producing lodging.
Vest.Mosk.un.Ser.6: Biol., pochv. 15 no.1:37-45 '60. (MIRA 13:8)

1. Kafedra fiziologii rasteniy Moskovskogo universiteta.
(Nucleic acids)
(Botany--Morphology)

TURKOVA, N.S.

Chemical means for plant growth regulation. Vest. Mosk.
un. Ser. 6: Biol., pochv. 17 no.5;3-16 S-0 '62.

(MIRA 15:11)

1. Kafedra fiziologii rasteniy Moskovskogo universiteta.
(Growth inhibiting substances)
(Growth promoting substances)

TURKOVA, Nina Sergeyevna; KOROBTSOVA, N.A., red.; KOZLOVA, T.A.,
tekhn. red.

[Plant respiration] Dykhanie rastenii. Moskva, Izd-vo
Mosk. univ., 1963. 290 p. (MIRA 16:5)
(Plants--Respiration)

TURKOVA, N.S.; VASIL'YEVA, L.N.; CHEREMUKHINA, L.F.

Physiology of the curving of leaves and stems. Fiziol. rast.
12 no.5:825-831 S-0 '65. (MFA 19:1)

1. Kafedra fiziologii rasteniy Moskovskogo gosudarstvennogo
universiteta.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7

TURKOVA, N.S.; LE TEHE SUAN

Some physiological characteristics of wheat varieties resistant
to lodging. Nauch. dokl. vyc. snizh; tr. i. nauki so. 1966-172
'66.

1. Rekomendovana kafedrce fiziologii rastenij Moskovskoj
gosudarstvennoj universiteta. Submitted November 9, 1964.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"

KLOZ, Josef; TURKOVA, Vera

Legumin, vicilin and similar proteins in the seeds of some species of the Viciaceae family; a comparative serological study. Biologia plantarum 5 no.1:29-40 '63.

1. Institute of Experimental Botany, Czechoslovak Academy of Sciences, Praha - Dejvice, Na cvicisti 2.

MIKESH, O. [Mikes, O.]; TURKOVA, Ya.; SHORM, F. [Sorm, F.]

Methyluracil. Zhur.ob.khim. 32 no.10:3462 0 '62.
(MIRA 15:11)
1. Institut organicheskoy khimii i biokhimii, Praga.
(Uracil)

PATERA, V.; TURKOVA, Z.

Morbidity and mortality in tetanus. Cesk. epidem. mikrob. imun.
6 no.5:358-359 Sept 57.

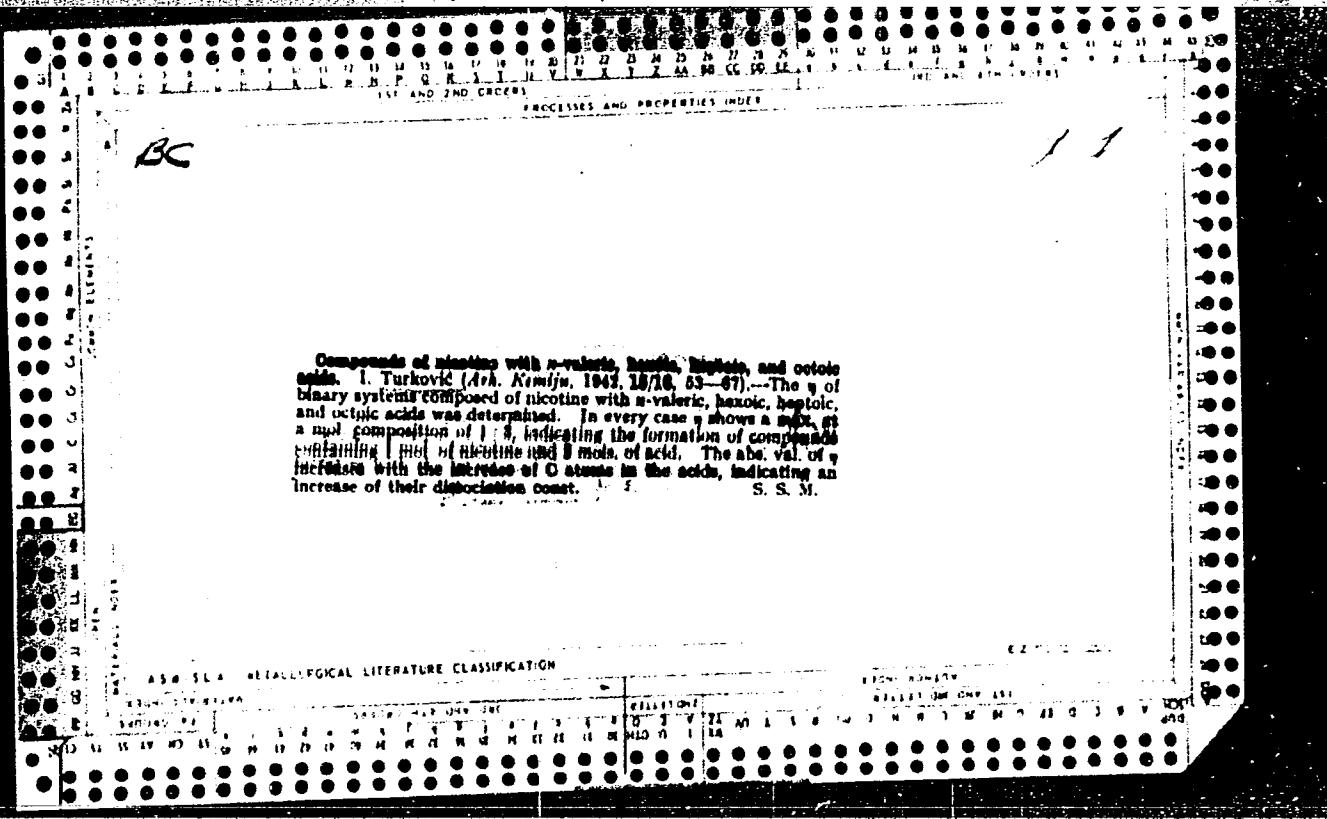
1. Krajska hygienicko-epidemiologicka stanice KNV, Praha reditel
MUDr. L. Hofta.

(TETANUS, statistics,
morbidity & Mortal. in Czech. (Cx))

BEKKER, Z.E.; DMITRIYeva, S.V.; BORISOVA, T.G.; TURKOVA, Z.A.; LISTNA, Ye.S.;
CHAPLINA, L.B.

Characteristics of the development of molds producing various
antibiotic and antiblastic substances. Mikrobiologiya 34 no.4:653-
660 Jl-Ag '65. (MIR 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov;
Eksperimental'naya laboratoriya zavoda imeni Karpova; Biologo-
pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta
imeni M.V.Lomonosova.



COUNTRY : YUGOSLAVIA
CATEGORY : Cultivated Plants. Fruit. Berry. Nuciferous. M
Tea.
ARS. JOUR. : RZBiol., No. 3, 1959, No. 11140
AUTHOR : Turkovic, Z.
INST. :
TITLE : The Lack of Uniformity in the Grape Yield.

ORG. PUB. : Agron. glesnik, 1957, 7, No. 9-10, 330-334.

ABSTRACT : Observations which were made in Zagreb (Yugoslavia) on 51 grape varieties showed that for a favorable development of the grape plant there are required (on an average) on 1 square meter, young canes with 140 leaves the area of which comprises 143 square centimeters. The lack of uniformity in the fruit-bearing of vineyards depends on many reasons part of which can be eliminated by the proper care of the plants. The other reasons should be dealt with by means of securing hardy varieties of the grape plant. -- Ye. A. Farshina

CARD: 1/1

-149-

YUGOSLAVIA/Cultivated Plants - Fruits. Berries.

M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53823

Author : Turkovic Zdenko

Inst :

Title : Study of the Wild Grape Plant.

Orig Pub : Agron. glasnik, 1957, 7, No 3-4, 77-85

Abstract : The wild grape plant of Herzegovina has many common traits with the cultivated grape plant. The white berry forms of the wild grape plant have been found, but in the majority of the encountered plants there were black elongated berries. The leaf form does not depend on the sex of the vine. The wild grape plant is not demanding in regard to soil; it is very resistant to diseases and pests; it tolerates frosts well and occurs up to 1000 m above sea level. -- Ye.A. Parshina

Card 1/1

TURKOVICH, N. M.

Dissertation: "Complex Organic Bismuth Compounds." Doc Pharm Sci, Moscow
Pharmaceutical Inst, Ministry of Health USSR, Moscow, 19 Jun 54. (Meditinskij
Rabotnik, Moscow, 4 Jun 54)

SO: SUM 318, 23 Dec. 1954

JANCSO, Tibor, okleveles vegyeszmernok; LAKLIA, Tibor, okleveles vegyeszmernok; PETO, Edit, dr., okleveles kozgazdasz; SCHILL, Ottmar, okleveles gepeszmerenok; SIPOTZ, Istvan, dr., okleveles kozgazdasz; TURKOVICS, Gyorgy, okleveles banyamernok

General economic aspects of transporting crude oils, oil products and natural gas through pipelines. Bany lap. 97 no.9:626-634 S '64.

1. Petroleum and Gas Industry Planning Enterprise, Budapest.

S/149/61/000/004/008/008
A006/A101

AUTHORS: Hsieh Jui-yu; Turkovskaya, A.

TITLE: Corrosion of copper-nickel alloys in sea water

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,
no. 4, 1961, 145-148

TEXT: An investigation was made to establish the limit of the chemical stability of Cu-Ni alloys in sea water for the purpose of determining the minimum nickel content assuring corrosion resistance of the alloy. Several Cu-Ni alloys with 0 - 100% Ni content were investigated. They were prepared from electrolytically refined copper and nickel. After preheating to 900 - 1,000°C, ingots were rolled into about 1 mm thick strips from which specimens were cut and annealed at 850 - 950°C for 1 1/2 hours in hydrogen atmosphere. The tests were carried out at room temperature in artificial sea water containing (in g/l): 27.2 NaCl, 3.8 MgCl₂, 1.7 MgSO₄, 1.2 CaSO₄, 0.9 K₂SO₄ and 0.1 NaBr and CaCl₂ each. Tests in moving sea water were made in a special porcelain 45 liter tank along whose walls the specimens were fixed in plexiglass frames. The water was moved by a mixer at a speed of the paddle ends of 11.8 and 17.3 m/sec.

Card 1/2

S/149/61/000/004/008/008
A006/A101

Corrsion of copper-nickel alloys in sea water

During the mixing, the water was heated to 35 - 45 and 55 - 65°C respectively. Simultaneously electrochemical tests were performed. Potentials of the alloys were measured during continuous trimming of the electrodes with a carborundum disk on a special device. The tests show that if the Ni content in the alloy is about 20%, a stability limit appears which causes abrupt changes in the properties of the alloys. The corrosion rate of Cu-Ni alloys in sea water with about 20% Ni drops sharply. In moving water the corrosion rate is accelerated at a greater speed of motion. The critical speed is about 8 m/sec; at 11.8 and 17.3 m/sec corrosion resistance is abruptly raised for alloys with over 20% Ni. Measurement of potentials during trimming shows that the stability limit appears as a result of the greater passivating ability of the alloy. There are 5 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATIONS: Krasnoyarskiy institut tsvetnykh metallov (Krasnoyarsk Institute of Non-Ferrous Metals); Kafedra korrozii i elektrokhimii (Department of Corrosion and Electrochemistry)

SUBMITTED: January 16, 1961

Card 2/2

L 1290-66 EWT(m)/EPF(c)/EWA(d)/EWP(t)/ENP(z)/EWP(b) IJP(c) MJ4/JD/HB
ACCESSION NR: AP5025504 UR/0365 65/000/003/0293/0296

AUTHOR: Storchay, E. I.; Turkovskaya, A. B.

TITLE: Question of pitting corrosion of aluminum alloys

SOURCE: Zashchita metallov, no. 3, 1965, 293-296, and bottom half of insert facing p. 286

TOPIC TAGS: aluminum alloy, corrosion, solution property, electrochemistry

ABSTRACT: A study of the conditions for formation of pitting corrosion of some aluminum alloys, performed with the aid of measurements of equilibrium potentials, corrosion tests and the production of polarization curves was made. The potential measurements were performed in 0.005, 0.05 and 0.5 N solutions of NaCl on samples of alloys AMg₁, AMg5B and AMg8, cut from 0.55 mm sheet, degreased with organic solvents, etched in 6% NaOH at 60° for 1.5 min, cleaned in a 10% HNO₃ solution for 15 sec, then finally treated in a Sokslet apparatus with sulfuric acid ester. Before measurement, the samples were stored not less than one day in a dessicator. All the alloys were tested in the annealed state. The potential was measured relative to a

Card 1/4

L 1290-66
ACCESSION NR: AP5025504

saturated calomel electrode. In some cases, a cathode voltmeter-recorder combination provided continuous time-potential charts. Parallel with the potential measurements, corrosion testing of alloys AMts, AMg3, AMg5D and AMg6 was performed in a 0.05 N NaCl solution. -18

USSR

Moscow, Zashchita Metallov, No 3, May-June 65, pp 293-296.

Alloy	Pitting Formation Potential E_p , millivolts		
	0.005 N NaCl	0.05 N NaCl	0.5 N NaCl
AMts	-295	-355	-405
AMg5B	-335	-395	-455

Card 2/4

L 1290-66

ACCESSION NR: AP5025504

The results indicate that pitting corrosion can take place with or without anode polarization when the pitting formation potential is attained, though perhaps by two essentially different mechanisms. The difference in the potentials and the differences in the rates, quantity and shapes of pits indicate this possibility. It was established that the rate of formation of pits with steady potential is several orders of magnitude lower than that when the pit formation potentials are attained, and that the number of pits in the latter case is several dozen times higher than the number of pits with no external polarization. The pittings formed with anode polarization are extended in the direction of lamination and are of identical

Moscow, Zashchita Metallov, No 3, May-June 65, pp 293-296.

depth, whereas the pittings formed with steady potential are of varying direction and shape. Some of them cease growing in the initial stage, others are ulcerous disruptions with strongly etched borders and rough inner surfaces. Orig. art. has: 1 figure, 3 graphs and 2 tables.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroeniya (Moscow Institute
of Chemical Machine Building) 44, 55
Card 3/4

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7

L 1290-66

ACCESSION NR: AP5025504

SUBMITTED: 27Jul64

ENCL: 00

SUB CODE: MM, GC

NR REF Sov: 005

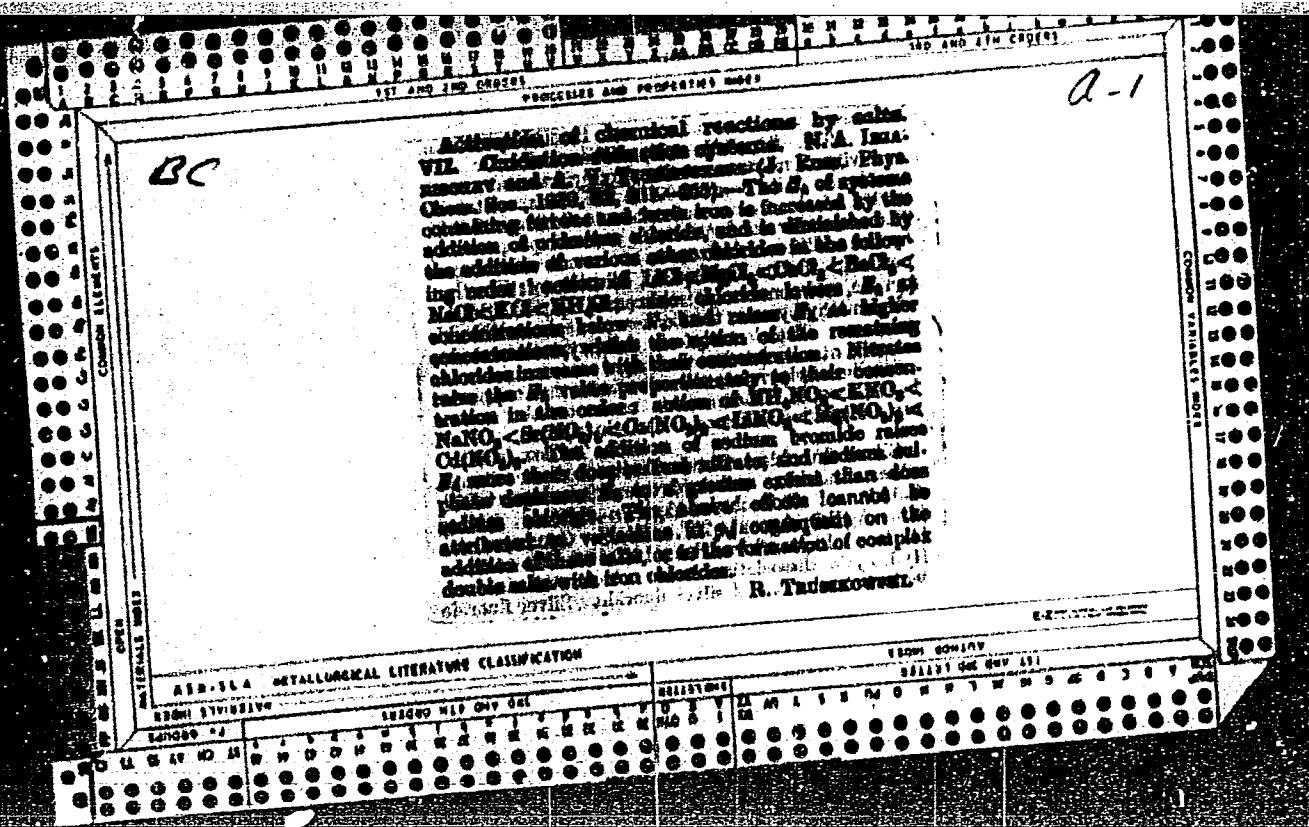
OTHER: 004

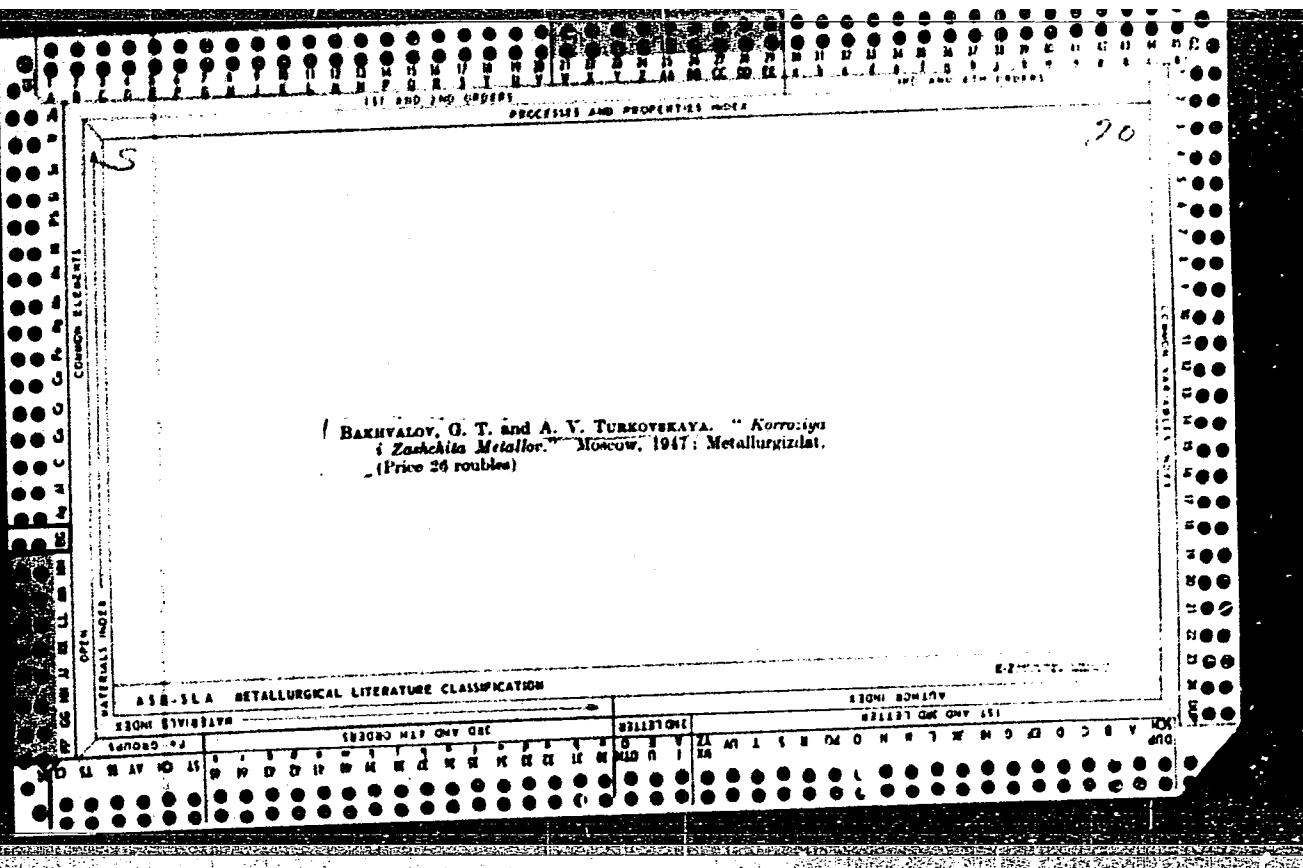
JPRS

*MCR
Card 4/4*

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"





TURKOVSKAYA, A. V.

PA 65T77

USSR/Metals
Zinc Alloys
Corrosion

Mar/Apr 1948

"Increase in the Corrosion Resistance of Zinc Plating and Zinc Alloys by Chromating," A. V. Turkovskaya, G. S. Reveko, Mem, Committee on Galvanostegy, 2 pp

"Vest Inzher i Tekhn" No 2

Zinc alloys or zinc coatings both increase the resistance to corrosion. Various factors, such as humidity of the atmosphere, chemical content of the air, salt water, etc., have various effects on the degree of corrosion resistance. Best results obtained from 5-second immersion in bichromate solutions. Chromating gives zinc reddish hue. 65T77

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7

TURKOVSKAJA, A. V.

Guide to laboratory work in corrosion and galvanization.

Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1952.

236 p. (54-18034)

TA462.B3

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"

BOBYLEV, Aleksey Vasil'yevich; TOMASHOV, N.D., professor doktor, retsenzent;
TURKOWSKAYA, A.V., kandidat tekhnicheskikh nauk SHREIDER, A.V., redaktor;
ARKHANGEL'SKAYA, M.S., redaktor; MIKHAYLOVA, V.V., tekhnicheskiy
redaktor.

[Disintegration of brass caused by corrosion] Korrozionnoe rastreski-
vanie latuni. Moskva. Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i
tsvetnoi metallurgii, 1956. 120 p.
(Brass--Corrosion) (MLRA 9:5)

LEVIN, I.A., kand.tekhn.nauk, red.; BATRAKOV, V.P., kand.tekhn.nauk, red.;
NIKIFOROVA, V.M., kand.tekhn.nauk, starshiy nauchnyy sotrudnik, red.;
TURKOVSKAYA, A.V., kand.tekhn.nauk, red.; LESNICHENKO, I.I., inzh.,
red.izd-va; EL'KIND, V.D., tekhn.red.

[Intergranular corrosion and stress corrosion of metals] Mezh-kristallitnaia korroziia i korroziia metallov v napriazhennom sostoianii. Pod obshchei red. I.A.Levina. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 358 p. (MIRA 13:6)

1. Vsesoyuznyy sovet nauchno-tekhnicheskikh obshchestv.
(Corrosion and anticorrosives)
(Metal crystals--Corrosion)

STORCHAY, Ye.I.; TURKOVSKAYA, A.V.

Corrosion of some aluminum alloys in contact with other
metals in chloride solutions. Trudy MIKHM 28:70-75 '64.
(MIRA 19:1)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7

MACHEVSKAYA, R.A.; TURKOVSKAYA, A.V.

Steel corrosion in friction. Trudy MIIMM 28:76-86 '64.
(MIIM 19:1)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"

L 46825-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JB/DJ/GD
 ACC NR: AT6024978 SOURCE CODE: UR/0000/65/000/000/0403/0409

AUTHOR: Machevskaya, R. A.; Turkovskaya, A. V.

ORG: none

59
56
C+1

TITLE: Behavior of stainless steels during friction in corrosive media,

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Zashchitnyye metalli-cheskiye i oksidnyye pokrytiya, korroziya metallov i issledovaniya v oblasti elektro-khimii (Protective metallic and oxide coatings, corrosion of metals, and studies in electrochemistry). Moscow, Nauka, 1965, 403-409

TOPIC TAGS: stainless steel, metal friction, sulfuric acid, corrosion, austenitic steel/
 Kh23N28M2DZT steel

ABSTRACT: The corrosion processes occurring during friction were investigated by following the anodic and cathodic processes potentiostatically, i. e., determining the dissolution current at potentials close to that established in the friction process. A P-3b quick-response electronic potentiostat was employed. A study of the behavior of Kh23N28M2DZT austenitic stainless steel during friction in 1 and 6 N H₂SO₄ and 0.2 N Na₂SO₄ solutions showed that the potentiostatic method could be used to evaluate the role of corrosion processes in wear resulting from friction. An increase in H₂SO₄ concentration from 1 to 6 N, despite the resulting increase in corrosiveness, causes a reduction in wear. This is assumed to be due to an increase in the oiliness and lubricating capacity of the acid. Such an increase in lubricating capacity may reduce the

Card 1/2 * [X23H28M3B3T alloy designation]

46125-56
ACC NR: AT6024978

deformation of the surface layers of the surfaces in contact. A shift of the potential of the rubbing electrode toward negative values relative to the resting potential indicates an impairment of the passive state. This is confirmed by a substantial increase in anodic current during friction as compared to the currents at rest. The increase in anodic current associated with the shift of the potential to the anodic side relative to the steady-state potential leads to the conclusion that anodic protection is unsuitable as a means of reducing wear during the friction of steel in corrosive media.
Orig. art. has: 5 figures.

SUB CODE: 11/ SUBM DATE: 22Jun64/ OTH REF: 001

Card 2/2 blg

ACC NR: AF6036109

(N)

SOURCE CODE: UR/0365/66/002/006/0657/0663

AUTHOR: Riskin, I. V.; Ionakh, B.; Turkovskaya, A. V.

ORG: Moscow Institute for Machine Construction (Moskovskiy institut khimicheskogo mashinostroyeniya)

TITLE: Electrochemical investigation of pitting corrosion in steel Kh18N10T under conditions of heat transfer

SOURCE: Zashchita metallov, v. 2, no. 6, 1966, 657-663

TOPIC TAGS: corrosion resistance, heat transfer, corrosion resistant steel

ABSTRACT: The article first describes a special glass cell developed for investigation of electrodes under heat transfer conditions, over a wide range of media and temperatures (sketch of equipment is shown). In the investigation proper, the samples were disks of steel Kh18N10T with a working surface of 1 cm². Before the experiment, the samples were held for not less than 24 hours over freshly calcined calcium chloride. Before polarization, the samples were held for 1 hour in the working solution under the same heat transfer conditions as in the polarization process. In anode polarization, starting at some given potential, there is observed an increase in the current at the same rapid rate as during the attainment of the potential for the formation of pitting in well pressed samples. Detailed experimental data are shown in

Card 1/2

UDC: 620.193.56./536.24

ACC NR: AP6036109

graphic form. From these data, it is concluded that: 1) the nature of the dependence of the potential for formation of pitting on the temperature of the wall of the cell can be different under conditions of heat transfer and under isothermal heating conditions; 2) under certain conditions, the tendency of stainless steel toward pitting corrosion is greater with heat transfer than under isothermal conditions, even if the heat flux is directed from the wall into the solution; 3) the potential for the formation of pitting depends not only on the temperature level and the magnitude of the temperature drop, but also on the direction of the heat flux. Orig. art. has: 4 figures.

07/
SUB CODE: 11, 20/₄ SUBM DATE: 07Feb66/ ORIG REF: 008/ OTH REF: 004

Card 2/2

STORCHAY, Ye.I.; TURKOVSKAYA, A.V.

Fitting corrosion of aluminum alloys. Zashch. met. I no.3:
293-296 My-Je '65. (MIRA 18:3)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

STORCHAY, Ye.I.; TURKOVSKAYA, A.V.

Methods and equipment for measuring the pH in the layer adjacent
to an electrode by means of an antimony microelectrode. Zashch.
met. 1 no.1:118-121 Ja-F '65. (MIRA 18:5)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

"APPROVED FOR RELEASE: 03/14/2001

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APPROVED FOR RELEASE: 03/14/2001

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"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7

1. The following table gives the number of hours worked by each of the 100 workers.

activation procedures were present. The activation value was set at 0.5, and was reached

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ENTD 1000 010 0032 0004
VOL 1000 010 0032 0004

DATA 1000 010 0032 0004

RECORDED 1000 010 0032 0004

aluminum passivity

ALUMINUM AM 6061 T6 0.050" X 0.050"

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Card 1/B

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530006-7"

100-4026

ACCESSION NR: AF 100-4026

art. has. 6 figures.

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 005

ENCL: 01

SUB CODE: MM

OTHER: 001

Card 2/3

BAKHVALOV, Grigory Tikhonovich; TURKOVSKAYA, Anna Vasil'yevna

[Guide to laboratory work on the corrosion of metals and electroplating] Rukovodstvo k laboratornym rabotam po korrozii metallov i gal'vanostegii. Izd.2., dop. Moskva, Metallurgija, 1965. 183 p. (MIRA 18:3)

SEARCHED INDEXED SERIALIZED FILED

REF ID: A65000000000000000000000000000000

TITLE: The effect of friction on the potential of steel in solutions at various pH values

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 2, 1965, 335-341

TOPIC TAGS: electrochemistry, steel potential, steel friction, friction potential, steel electrode, buffer solution, steel passivation

ABSTRACT: The effect of pH values from 1-14, electrolyte concentration, friction and mixing on the potential of steel electrodes was studied experimentally. The study covered solutions of hydrochloric and sulfuric acid and sodium hydroxide and additions of various buffer solutions such as citric acid, calcium phosphate, and phthalate.

Card 1/2

L 41232-65
ACCESSION NR: AP5005565

tions to the common range 460-570 mv. In alkaline solutions, friction caused a markedly stronger shift of stationary potentials and the direction of this shift depended on the concentration of the electrolyte. The weak effect of friction and/or mixing upon the potential in acid solutions is explained by the sulfidation state of the metal and by the dominant effect of oxygen on the generation of the potential. The effect of oxygen and the interaction with acid, buffer additions, mixing and friction cause a significant shift of the potential in the direction of the cathodic limit.

to stationary conditions in sulfuric acid + 0.1M Na₂S₂O₃, 0.1M NaClO, 0.1M Na₂SO₃ effect of friction timing and buffer additions on the potential. Orig. art. has: 6 figures.

ASSOCIATION: Moskovskiy institut vysokikh i spetsializirovannykh materialov
mailing address: Moscow, Russia

TYPE SETTING: 1

NO REF Sov: 004

OTHER: 006

Fo
Caro 2/2

KOLESNKOVA, L.S.; ADLER, Yu.P.; TURKOVSKAYA, A.V.

Comparing the tendency toward intercrystalline corrosion in
zinc-aluminum alloys. Izv. vys. ucheb. zav.; tsvet. met. 6
no.6:132-135 '62. (MIRA 16:6)

1. Moskov'skiy institut stali i splavov, i Gosudarstvennyy
nauchno-issledovatel'skiy institut redkikh metallov.
(Zinc-aluminum alloys—Corrosion)

S/149/63/000/001/007/008
A006/A101

AUTHORS: Adler, Yu. P., Kolesnikova, L. S., Turkovskaya, A. V.

TITLE: Investigating intercrystalline corrosion of zinc alloys for pressure-casting, using the method of standard planning

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 1, 1963, 134 - 140

TEXT: The authors studied the effect of copper admixture upon intercrystalline corrosion of zinc-aluminum alloys and determined the permissible amount of copper in the alloys. Moreover, the effect of the alloying components and impurities upon the strength characteristics of these alloys, not subjected to corrosion, were revealed. The Box-Wilson method of planning was employed, based on mathematical statistics. Small series of experiments are consecutively performed; after each series the simplest way of obtaining optimum conditions is determined. The problem consists in determining coefficients of linear regression equation $y = b_0x_0 + b_1x_1 + b_2x_2 + \dots + b_kx_k$ (1) where x_0 is the conditional variable, identically equal to +1 and introduced for convenience of calculation;

Card 1/4

S/149/63/000/001/007/008

A006/A101

Investigating intercrystalline corrosion of...

x_1, x_2, \dots, x_k are independent variables; b_1, b_2, \dots, b_k are estimates for coefficients at linear terms; b_0 is the estimate of the free term. The coefficients are determined by the formula:

$$b_j = \frac{\sum_{i=1}^k y_i x_i}{\sum_{i=1}^k x_i^2} \quad (2)$$

The basic requirements of this method are: knowledge of all factors affecting the process, and the presence of an optimum criterion; the experimental results depend substantially upon the correct selection of the criterion. The method yields information not only on basic effects but also on interaction effects, which, in conventional methods, are usually not revealed. Ultimate tensile strength σ_B was selected as a criterion; y_1 was taken as the difference between the ultimate tensile strength prior and after corrosion tests $\Delta\sigma_B$; y_2 corresponds to the ultimate tensile strength for specimens that were not subjected to corrosion tests σ_B^0 . Concentrations of the following 5 components (in weight %) were

Card 2/4

S/149/63/000/001/007/008

A006/A101

Investigating intercrystalline corrosion of...

selected as independent variables: copper x_1 , magnesium x_2 , cadmium x_3 , lead x_4 , tin x_5 . It was found that in zinc alloys with 4% Al, with or without Cu, a noticeable decrease of sensitivity to intercrystalline corrosion can not be obtained, using Mg, Pb, Cd and Sn variables in a certain variation range. In alloys without copper, the impurities should not exceed 0.01% Cd, 0.015% Pb, 0.001% Sn. If about 0.7% Cu is introduced to the alloy, proneness to intercrystalline corrosion is reduced; the permissible amount of harmful impurities (Cd and Pb) may be higher than in alloys with copper (0.1 and 0.035% respectively). In zinc alloys with 4% Al, containing about 0.7% Cu, zinc grades not below 11 1 (Ts1) can be used. For alloys without Cu, zinc below grade 11 0 (Ts0) can be employed. An increased Cu amount allows an increase in the amount of Cd and Pb admixtures. The addition of 0.1% Mg to the alloy reduces considerably the ultimate tensile strength of alloys, that were not subjected to corrosion, and somewhat reduces their proneness to intercrystalline corrosion. As a result of the experimental investigation alloys 15 and 16 are recommended for industrial production and for tests under natural conditions. There are 3 tables.

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Card 3/4

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ACC6/A101

Investigating intercrysalline corrosion of...

Steel and Alloys) kafedra korrozii metallov (Department of Metal Corrosion); Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machinebuilding) kafedra korrozii khimicheskoy apparatury (Department of Corrosion of Chemical Equipment)

SUBMITTED: October 12, 1962

Composition of the alloys 15 and 16, in %

	Al	Cu	Mg	Cd	Pb	Sn
alloy 15	4.0	0.67	0.09	0.10	0.035	0.001
	4.2	0.76	0.11			
alloy 16	4.0	0.00	0.09	0.01	0.015	0.001
	4.2		0.11			

Card 4/4